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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,499	09/23/2003	Kyung-Chool Choi	45441	1923

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EXAMINER

SHAH, MANISH S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/667,499	Applicant(s) CHOI ET AL.	
	Examiner Manish S. Shah	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 7-8 & 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Sekiya (# US 2003/0016269 A1).

Sekiya discloses a discharge/heater roller for use with an ink jet printer capable of printing an image on paper, the discharge/heater roller including a heat-conductive cylindrical portion (element: 88, figure: 1), a roller rubber (silicon rubber) covering the cylindrical portion and generating a friction force to discharge the paper from the printer ([0117]), and a heat-generator disposed on an inner surface of the cylindrical portion in an axial direction ([0116]), wherein the discharge/heater roller is disposed close to print head of the printer (element: 88, figure: 9). They also disclose that the heat generator includes a heater coil formed of nichrome wire ([0016]), and wherein the roller rubber is formed of material (silicon rubber), which is heat resistant with respect to a predetermined temperature transmitted from the heat generator ([0117]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 & 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Sekiya (# US 2003/0016269) and Jacob (# US 2002/0130939).

AAPA discloses an ink jet printer including a print head forming an image by spraying ink from a nozzle towards a paper (element: 6, figure: 1-2); a transfer unit for transferring the paper towards the print head (figure: 1-2); a discharge/heater roller being in contact with a side of the paper opposite to a side with image formed thereon by the print head for drying ink, and for discharging the paper; wherein the discharge /heater roller includes a heat conductive cylinder portion; a heat generator disposed on an inner surface of the cylinder portion in an axial direction (element: 8, figure: 2). They also disclose that the discharge/heater roller is disposed close to the print head (figure: 2).

AAPA differs from the claim of the present invention is that the (1) one or more supporting rolls located above the discharge/heater roller for discharging paper together with the discharge/heater roller, wherein supporting roller including a star wheel for minimizing a spread of ink of the image on the paper. (2) The discharge/heater roller

includes a roller rubber covering the cylindrical portion and generating a friction force during the discharging paper portion, wherein the cylindrical portion is formed of aluminum, and wherein the roller rubber is formed of material, which is heat resistant with respect to a predetermined temperature transmitted from the heat generator.

Jacob teaches that to get the printed image without damaging the quality of printed image, which could be graphics, text or combination, inkjet printer includes one or more supporting rolls (element: 30, figure: 1) located above the discharge roller (element: 32, figure: 1) for discharging paper together with the discharge roller, wherein supporting roller including a star wheel for minimizing a spread of ink of the image on the paper (element: 30, figure: 1, [0022]-[0024]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inkjet printer of AAPA by the aforementioned teaching of Jacob in order to get the printed image without damaging the quality of printed image, which could be graphics, text or combination.

Sekiya teaches that to remove the moisture and feed and discharge the sheet smoothly, the heater roller includes a roller rubber (elastic, silicone rubber) (element: 88, figure: 9) covering the cylindrical portion (element: 88, figure: 9) and generating a friction force during the discharging paper portion ([0114]-[0118]), wherein the heat generator includes a heater coil formed of nichrome wire ([0016]), and wherein the roller rubber is formed of material (silicon rubber), which is heat resistant with respect to a predetermined temperature transmitted from the heat generator ([0117]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the discharge roller (element: 8; figure: 2) of inkjet printer of AAPA with the coating of rubber, which was taught by Sekiya in order to remove the printed sheet smoothly from the inkjet printer, which gives the high quality printed image.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Muranaka (# US 6004052).

AAPA discloses all the limitation of the ink jet printer except that the cylindrical portion is formed of aluminum.

Muranaka teaches that to remove the moisture and feed and discharge the sheet smoothly, the heater roller includes a roller rubber (elastic, silicone rubber) (element: 12, figure: 2, 5) covering the cylindrical portion (element: 11, 26, figure: 2, 5) and generating a friction force during the discharging paper portion (column: 4, line: 18-25), wherein the cylindrical portion is formed of aluminum (column: 4, line: 10-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the discharge roller (element: 8; figure: 2) of inkjet printer of AAPA by the aforementioned teaching of Muranaka in order to remove the printed sheet smoothly from the inkjet printer, which gives the high quality printed image.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya (# US 2003/0016269 A1) in view of Muranaka (# US 6004052).

Sekiya discloses all the limitation of a discharge/heater roller for use with an ink jet printer capable of printing an image on paper, the discharge/heater roller except that the cylindrical portion is formed of aluminum.

Muranaka teaches that to remove the moisture and feed and discharge the sheet smoothly, the heater roller includes a roller rubber (elastic, silicone rubber) (element: 12, figure: 2, 5) covering the cylindrical portion (element: 11, 26, figure: 2, 5) and generating a friction force during the discharging paper portion (column: 4, line: 18-25), wherein the cylindrical portion is formed of aluminum (column: 4, line: 10-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the discharge roller of inkjet printer of Sekiya by the aforementioned teaching of Muranaka in order to remove the printed sheet smoothly from the inkjet printer, which gives the high quality printed image.

Response to Arguments

5. Applicant's arguments filed 06/19/2006 have been fully considered but they are not persuasive. Applicant argued that the coating on the roller of Sekiya is formed from a non-wetting material such as polytetrafluoroethylene, which had low coefficient of friction, which is persuasive. However, Sekiya discloses in the same paragraph 117, that the coating of the roller can formed of silicon rubber, and silicon rubber had a high coefficient of friction, which had sufficient force to discharge the paper as in the claimed invention. Therefore Sekiya anticipated the claimed invention.

With respect to 35 U.S.C 103(a) rejections of claims 1-3, 5-6, applicant argued that the alleged prior art disclose in the specification do not disclose supporting roller located above the discharge heating roller, a star wheel positioned above the heating roller, which is persuasive. However, Jacob teaches the star wheel position above the discharge roller 32, so it is obvious to add star wheel on top of the discharge-heating roller of the prior art, and prior art already disclose the heating roller, only thing they didn't disclose is that the coating of the heating roller is made of rubber. Sekiya teaches the heating roller made of silicone rubber, so it obvious to modify the heating roller of the prior art.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. (1) Yamada et al. (# US 6029040) discloses that the roller 31 is covered by the material with high friction coefficient such as silicon rubber, so it doesn't slip the fixing belt (column: 5, line: 1-10).
8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

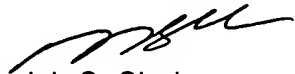
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

8/16/06